O'Bryen, Barbara

From: Sent:

Goldberg, Jeanine Tuesday, January 14, 2003 2:33 PM O'Bryen, Barbara 09/823,649- RT transcriptase

To: Subject:

Please search SEQ ID NO: 1-7 Please search for a nucleic acid encoding SEQ ID NO 1-7

THANK YOU

Jeanine Enewold Goldberg 1634 CM1--12D11 Mailbox-- 12E12 306-5817

> Point of Contact: Barb O'Bryen Technical Information Specialist STIC CM1 6A05 308-4291

> > pob .03

```
ANSWER 1 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: ABB99024 Protein DGENE
                  A novel dipeptaminopeptidase IV associated protein (DPPX)
TITLE:
                   47.41 polypeptide, and the polynucleotide which encodes it,
                  useful for treating several diseases e.g. nerve system
                   function disorders -
                  Mao Y; Xie Y
INVENTOR:
PATENT ASSIGNEE:
                  (BODE-N) BODE GENE DEV CO LTD SHANGHAI.
PATENT INFO:
                  CN 1342670
                                A 20020403
                                                              36p
APPLICATION INFO: CN 2000-125176 20000912
PRIORITY INFO: CN 2000-125176 20000912
DOCUMENT TYPE:
                  Patent
LANGUAGE:
                  Chinese
OTHER SOURCE:
                  2002-520750 [56]
      ABB99024 Protein
                               DGENE
AN
      24 A; 16 R; 26 N; 30 D; 0 B; 10 C; 13 Q; 42 E; 0 Z; 21 G; 10 H; 19 I; 42 L; 27 K; 4 M; 27 F; 17 P; 38 S; 18 T; 5 W; 14 Y; 28 V; 0 Others
AA
SQL
      431
SEO
        1 mvallieyvc kalqelygvn csaedvlnld sstdekfsrh lifqlhdvaf
       51 kdnihvgnfl rkilqpaldl lgsedddsap ettghgfphf seaparqgfs
      101 fnkmftekat eeswtsnskk lerlgsaeqs spdlsflvvk nnmgekhlfv
      151 dlgvytrnrn frlyksskig krvalgvted nkffpiqskd vsdeyqyfls
                              == =======
      201 slvsnvrfsd tlriltceps qnkqkgvgyf nsigtsveti egfqcspype
      251 vdhfvlslvn kdgikggirr wnyffpeell vydickyrwc enigrahksn
      301 nimilvdlkn evwyqkchdp vckaenfksd cfplpaevcl lflfkeeeef
      351 ttdeadetrs netqnphkps psrlstgasa davwdngidd ayfleateda
      401 elaeaaensl lsynsevdei pdeliievlq e
HITS AT: 169-179
L10 ANSWER 2 OF 19 DGENE (C) 2003 THOMSON DERWENT ACCESSION NUMBER: ABP05409 Protein DGENE
                  Novel human polypeptides and polynucleotides useful for
TITLE:
                  diagnosing, preventing and treating cardiovascular disease,
                  neurodegenerative, hyperproliferative disorders and
                   autoimmune disorders -
INVENTOR:
                  Shimkets R A; Leach M D
PATENT ASSIGNEE: (CURA-N) CURAGEN CORP.
                  WO 2001092523 A2 20011206
PATENT INFO:
                                                             999p
APPLICATION INFO: WO 2001-US10836 20010529
                  US 2000-206132P 20000530
PRIORITY INFO:
                  US 2000-228716P 20000829
DOCUMENT TYPE:
                  Patent
LANGUAGE:
                  English
OTHER SOURCE:
                  2002-106308 [14]
      ABP05409 Protein
AN
                              DGENE
      18 A; 8 R; 4 N; 4 D; 0 B; 1 C; 4 Q; 8 E; 0 Z; 5 G; 3 H; 4 I; 11 L; 2 K; 3 M; 2 F; 5 P; 8 S; 8 T; 0 W; 3 Y; 12 V; 0 Others
AΑ
SQL
      113
SEQ
        1 mypklpaitd leallavsra gsisraardm gmnqqtlstr vsraeqvlgv
       51 tvferspygi katesgevvl eavpalltac adfahnveqa radnlarhlt
      101 vavsntvaei hyp
          =====
HITS AT: 95-105
      ANSWER 3 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: ABP05071 Protein
                                            DGENE
                   Novel human polypeptides and polynucleotides useful for
                   diagnosing, preventing and treating cardiovascular disease,
                   neurodegenerative, hyperproliferative disorders and
```

```
autoimmune disorders
INVENTOR:
                 Shimkets R A; Leach M D
                  (CURA-N) CURAGEN CORP.
PATENT ASSIGNEE:
PATENT INFO:
                 WO 2001092523 A2 20011206
                                                          999p
APPLICATION INFO: WO 2001-US10836 20010529
PRIORITY INFO:
                 US 2000-206132P 20000530
                 US 2000-228716P 20000829
DOCUMENT TYPE:
                 Patent
LANGUAGE:
                 English
OTHER SOURCE:
                 2002-106308 [14]
      ABP05071 Protein
                             DGENE
AN
      7 A; 2 R; 2 N; 6 D; 0 B; 0 C; 4 Q; 6 E; 0 Z; 10 G; 1 H; 1 I;
AA
      13 L; 5 K; 1 M; 6 F; 4 P; 2 S; 5 T; 1 W; 1 Y; 6 V; 0 Others
SQL
SEO
        1 myfpvvgefl arrfqktnpg aiaepllgld sfawggeslk vfkldlpdgq
       51 lgkkltltvg enahftlvde ddqvlaaget gql
          _____ =
          51-61
HITS AT:
      ANSWER 4 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAM48268 Peptide
                                        DGENE
                 Reverse transcribing an RNA, comprises performing a reverse
TITLE:
                  transcriptase polymerase chain reaction amplification of a
                 mixture using a mutant thermoactive DNA polymerase ~
                  Smith E S; Elfstrom C M; Gelfand D H; Higuchi R G; Myers T W;
INVENTOR:
                  Schoenbrunner N J; Wang A M
PATENT ASSIGNEE:
                 (HOFF) HOFFMANN LA ROCHE & CO AG F.
PATENT INFO:
                 EP 1152062
                              A2 20011107
                                                           23p
APPLICATION INFO: EP 2001-109341
                                   20010412
PRIORITY INFO:
                 US 2000-198336P 20000418
DOCUMENT TYPE:
                 Patent
                 English
LANGUAGE:
OTHER SOURCE:
                  2002-076891 [11]
ΑN
      AAM48268 Peptide
                             DGENE
      0 A; 1 R; 0 N; 0 D; 0 B; 0 C; 0 Q; 1 E; 0 Z; 1 G; 0 H; 1 I; 2
AA
      L; 1 K; 0 M; 0 F; 0 P; 3 S; 0 T; 0 W; 0 Y; 1 V; 0 Others
SQL
SEO
        1 lskriglsvs e
          _____ =
HITS AT: 1-11
      ANSWER 5 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAB47797 peptide
                                    DGENE
                  Reverse transcribing an RNA, comprises performing a reverse
TITLE:
                  transcriptase polymerase chain reaction amplification of a
                  mixture using a mutant thermoactive DNA polymerase
                  Smith E S; Elfstrom C M; Gelfand D H; Higuchi R G; Myers T W;
INVENTOR:
                  Schoenbrunner N J; Wang A M
PATENT ASSIGNEE:
                 (HOFF) HOFFMANN LA ROCHE & CO AG F.
PATENT INFO:
                 EP 1152062
                               A2 20011107
                                                           23p
APPLICATION INFO: EP 2001-109341
                                   20010412
PRIORITY INFO:
                 US 2000-198336P 20000418
DOCUMENT TYPE:
                  Patent
LANGUAGE:
                  English
OTHER SOURCE:
                 2002-076891 [11]
AN
      AAB47797 peptide
                            DGENE
      1 A; 1 R; 2 N; 0 D; 0 B; 0 C; 1 Q; 1 E; 0 Z; 0 G; 0 H; 1 I; 2 L; 1 K; 0 M; 0 F; 0 P; 0 S; 0 T; 0 W; 0 Y; 0 V; 1 Others
AA
SQL
SEO
        1 laqnlnixrk e
```

HITS AT: 1-11

```
FEATURE TABLE:
     |Location|Qualifier|
______
Misc-difference 8 | label | Ser, Thr
     ANSWER 6 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAB47796 peptide
                                       DGENE
                Reverse transcribing an RNA, comprises performing a reverse
                transcriptase polymerase chain reaction amplification of a
                mixture using a mutant thermoactive DNA polymerase
INVENTOR:
                Smith E S; Elfstrom C M; Gelfand D H; Higuchi R G; Myers T W;
                Schoenbrunner N J; Wang A M
                (HOFF) HOFFMANN LA ROCHE & CO AG F.
PATENT ASSIGNEE:
PATENT INFO:
                EP 1152062 A2 20011107
                                                       23p
APPLICATION INFO: EP 2001-109341 20010412
PRIORITY INFO: US 2000-198336P 20000418
DOCUMENT TYPE:
                Patent
                English
LANGUAGE:
OTHER SOURCE:
                2002-076891 [11]
AN
     AAB47796 peptide
                           DGENE
     0 A; 1 R; 0 N; 0 D; 0 B; 0 C; 0 Q; 1 E; 0 Z; 1 G; 0 H; 1 I; 2
AA
     L; 1 K; 0 M; 0 F; 0 P; 3 S; 0 T; 0 W; 0 Y; 1 V; 0 Others
SQL
     11
SEO
       1 lskriglsvs e
         _____ =
HITS AT: 1-11
     ANSWER 7 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAB47795 peptide
                                  DGENE
                Reverse transcribing an RNA, comprises performing a reverse
TITLE:
                transcriptase polymerase chain reaction amplification of a
                mixture using a mutant thermoactive DNA polymerase -
INVENTOR:
                Smith E S; Elfstrom C M; Gelfand D H; Higuchi R G; Myers T W;
                Schoenbrunner N J; Wang A M
PATENT ASSIGNEE: (HOFF) HOFFMANN LA ROCHE & CO AG F.
PATENT INFO:
                EP 1152062
                            A2 20011107
                                                       23p
APPLICATION INFO: EP 2001-109341 20010412
PRIORITY INFO: US 2000-198336P 20000418
DOCUMENT TYPE:
                Patent
LANGUAGE:
                English
OTHER SOURCE:
               2002-076891 [11]
     AAB47795 peptide
                          DGENE
     0 A; 1 R; 0 N; 0 D; 0 B; 0 C; 0 Q; 1 E; 0 Z; 1 G; 0 H; 0 I; 2 L; 1 K; 0 M; 0 F; 1 P; 1 S; 0 T; 0 W; 0 Y; 2 V; 1 Others
SOL
SEO
       1 lsvrlgxpvk e
         _________
HITS AT: 1-11
FEATURE TABLE:
              |Location|Qualifier|
Misc-difference | 7 | label | Val, Ile
```

```
ANSWER 8 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAB47794 peptide
                                         DGENE
                  Reverse transcribing an RNA, comprises performing a reverse
                  transcriptase polymerase chain reaction amplification of a
                  mixture using a mutant thermoactive DNA polymerase -
                  Smith E S; Elfstrom C M; Gelfand D H; Higuchi R G; Myers T W;
INVENTOR:
                  Schoenbrunner N J; Wang A M
PATENT ASSIGNEE:
                  (HOFF) HOFFMANN LA ROCHE & CO AG F.
                 EP 1152062 A2 20011107
PATENT INFO:
                                                           23p
APPLICATION INFO: EP 2001-109341 20010412
PRIORITY INFO: US 2000-198336P 20000418
DOCUMENT TYPE:
                 Patent
LANGUAGE:
                 English
OTHER SOURCE:
                 2002-076891 [11]
     AAB47794 peptide
                            DGENE
ΑN
     0 A; 0 R; 0 N; 0 D; 0 B; 0 C; 0 Q; 3 E; 0 Z; 0 G; 0 H; 1 I; 2 L; 0 K; 0 M; 0 F; 1 P; 2 S; 0 T; 0 W; 1 Y; 0 V; 1 Others
AΑ
SQL
     11
SEO
        1 lsxelsipye e
HITS AT: 1-11
FEATURE TABLE:
               |Location|Qualifier|
Misc-difference | 3 | label | Gln, Gly
     ANSWER 9 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAB98974 protein
                                         DGENE
TITLE:
                  SHD1 protein useful for controlling the differentiation and
                  activation of germ center B cells -
PATENT ASSIGNEE:
                 (SUME) SUMITOMO ELECTRIC IND CO.
                 JP 2001078778 A 20010327
PATENT INFO:
                                                            16p
APPLICATION INFO: JP 1999-263688 19990917
PRIORITY INFO: JP 1999-263688 19990917
DOCUMENT TYPE:
                 Patent
LANGUAGE:
                  Japanese
OTHER SOURCE:
                 2001-313371 [33]
     AAB98974 protein
AN
                              DGENE
      144A; 107R; 54 N; 83 D; 0 B; 39 C; 111Q; 152E; 0 Z; 112G; 44 H; 57 I;
AA
      210L; 109K; 28 M; 87 F; 130P; 218S; 102T; 20 W; 25 Y; 139V; 0 Others
SQL
SEQ
        1 mhpvnpfggs spsafavsss ttgtyqtksp frfgqpslfg qnstpsksla
       51 fsqvpsfatp sggshssslp afgltqtssv glfsslestp sfaatssssv
      101 pgntafsfks tssvgvfpsg atfgpetgev agsgfrktef kfkplenavf
      151 kpipgpesep ektqsqissg fftfshpvgs gsggltpfsf pqvtnssvts
      201 ssfifskpvt sntpafaspl snqnveeekr vstsafgssn ssfstfptas
      251 pgslgepfpa nkpslrqgce eaisqveplp tlmkglkrke dqdrsprrhc
      301 heaaedpdpl srgdhppdkr pvrlnrprgg tlfgrtiqev fksnkeagrl
      351 gskeskesgf aepgesdhaa vpggsqstmv psrlpavtke eeesrdeked
      401 slrgksvrqs krreewiysl ggvsslelta iqcknipdyl ndrailekhf
      451 skiakvqrvf trrskklavi hffdhasaal arkkgkglhk dvvifwhkkk
      501 ispskklfpl keklgeseas qgiedspfqh splskpivrp aagsllskss
      551 pvkkpsllkm hqfeadpfds gsegseglgs cvsslstlig tvadtseeky
601 rlldqrdrim rqarvkrtdl dkarafvgtc pdmcpekery lretrsqlsv
      651 fevvpgtdqv dhaaavkeys rssadqeepl phelrpsavl srtmdylvtq
      701 imdqkegslr dwydfvwnrt rgirkditqq hlcdpltvsl iekctrfhih
      751 cahfmceepm ssfdakinne nmtkclqslk emyqdlrnkg vfcaseaefq
```

801 gynvllnlnk gdilrevqqf hpdvrnspev nfavqafaal nsnnfvrffk

```
851 lvqsasylna cllhcyfnqi rkdalralnv aytvstqrst vfpldgvvrm
      901 llfrdseeat nflnyhgltv adgcvelnrs aflepeglck arksvfigrk
      951 ltvsvgevvn ggplppvprh tpvcsfnsqn kyvgeslate lpistqragg
          _____
     1001 dpagggrged ceaevdlptl avlpqpppas satpalhvqp lapaaapsll
     1051 qastqpevll pkpapvysds dlvqvvdeli qealqvdcee vssagaayva
     1101 aalgvsnaav edlitaattg ilrhvaaeev smerqrleee kqraeeerlk
     1151 gerelmltql seglaaelte ltvtecvwet csqelqsavk idqkvrvarc
     1201 ceavcahlvd lflaeeifgt aketlgelgc fckylgrwre avaarkkfrr
     1251 qmrafpaapc cvdvndrlqa lvpsaecpit eenlakglld lghagkvgvs
     1301 ctrlrrlrnk tahqikvqhf hqqllrnaaw apldlpsivs ehlpmkqkrr
     1351 fwklvlvlpd veeqtpespg rilenwlkvk ftgddsmvgd igdnagdiqt
     1401 lsvfntlssk gdqtvsvnvc ikvahgtlsd saldavetqk dllgtsglml
     1451 llppkvksee vaeeelswls allqlkqllq akpfqpalpl vvlvpssrgd
     1501 sagravedgl mlqdlvsakl isdyivveip dsvndlqgtv kvsgavqwli
1551 sgcpqaldlc cqtlvqyved gisrefsrrf fhdrrerrla slpsqepsti
     1601 ielfnsvlqf lasvvsseql cdiswpvmef aevggsqllp hlhwnspehl
     1651 awlkqavlgf qlpqmdlppp gapwlpvcsm viqytsqips ssqtqpvlqs
     1701 qaenllcrty qkwknkslsp gqelgpsvae ipwddiitlc inhklrdwtp
     1751 prlpvtleal sedgqicvyf fknllrkyhv pssweqarmq tqrelqlshg
     1801 rsgmrsihpp tstfptpllh vhqkgkkkee sgregslste dllrgasaee
     1851 llaqslsssl leekeenkrf edqlqqwlsq dsqaftestr lplylpqtlv
     1901 sfpdsiktgt myktstspgn sgtgkqlrfs easgssltek lkllerligs
     1951 sraeeaasel hlsallemvd m
HITS AT: 947-957
      ANSWER 10 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAB98957 protein
                                           DGENE
                  New CALPP protein the use of which is related to the
TITLE:
                  treatment or the detection of autoimmune diseases -
                  (SUME) SUMITOMO ELECTRIC IND CO.
PATENT ASSIGNEE:
PATENT INFO:
                  JP 2001078779 A 20010327
                                                            17p
APPLICATION INFO: JP 1999-263707
                                    19990917
                  JP 1999-263707
PRIORITY INFO:
                                    19990917
DOCUMENT TYPE:
                  Patent
LANGUAGE:
                  Japanese
OTHER SOURCE:
                  2001-313372 [33]
      AAB98957 protein
                              DGENE
      144A; 107R; 54 N; 83 D; 0 B; 39 C; 111Q; 152E; 0 Z; 112G; 44 H; 57 I;
      210L; 109K; 28 M; 87 F; 130P; 218S; 102T; 20 W; 25 Y; 139V; 0 Others
SQL
      1971
SEQ
        1 mhpvnpfggs spsafavsss ttgtyqtksp frfgqpslfg qnstpsksla
       51 fsqvpsfatp sggshssslp afgltqtssv glfsslestp sfaatssssv
      101 pgntafsfks tssvgvfpsg atfgpetgev agsgfrktef kfkplenavf
      151 kpipgpesep ektqsqissg fftfshpvgs gsggltpfsf pqvtnssvts
      201 ssfifskpvt sntpafaspl snqnveeekr vstsafgssn ssfstfptas
      251 pgslgepfpa nkpslrqgce eaisqveplp tlmkglkrke dqdrsprrhc
      301 heaaedpdpl srgdhppdkr pvrlnrprgg tlfgrtiqev fksnkeagrl
      351 gskeskesgf aepgesdhaa vpggsqstmv psrlpavtke eeesrdeked
      401 slrgksvrqs krreewiysl ggvsslelta iqcknipdyl ndrailekhf
      451 skiakvqrvf trrskklavi hffdhasaal arkkgkglhk dvvifwhkkk
      501 ispskklfpl keklgeseas qgiedspfqh splskpivrp aagsllskss
      551 pvkkpsllkm hqfeadpfds qseqseqlqs cvsslstlig tvadtseeky
      601 rlldqrdrim rqarvkrtdl dkarafvgtc pdmcpekery lretrsqlsv
      651 fevvpgtdqv dhaaavkeys rssadqeepl phelrpsavl srtmdylvtq
      701 imdqkegslr dwydfvwnrt rgirkditqq hlcdpltvsl iekctrfhih
      751 cahfmceepm ssfdakinne nmtkclqslk emyqdlrnkg vfcaseaefq
      801 gynvllnlnk gdilrevqqf hpdvrnspev nfavqafaal nsnnfvrffk
      851 lvqsasylna cllhcyfnqi rkdalralnv aytvstqrst vfpldgvvrm
      901 llfrdseeat nflnyhgltv adgcvelnrs aflepeglck arksvfigrk
      951 ltvsvgevvn ggplppvprh tpvcsfnsqn kyvgeslate lpistqragg
```

AN

AΑ

```
1001 dpagggrged ceaevdlptl avlpqpppas satpalhvqp lapaaapsll
     1051 qastqpevll pkpapvysds dlvqvvdeli qealqvdcee vssagaayva
     1101 aalgvsnaav edlitaattg ilrhvaaeev smerqrleee kqraeeerlk
     1151 qerelmltql seglaaelte ltvtecvwet csqelqsavk idqkvrvarc
     1201 ceavcahlvd lflaeeifqt aketlqelqc fckylqrwre avaarkkfrr
     1251 qmrafpaapc cvdvndrlqa lvpsaecpit eenlakglld lghagkvgvs
     1301 ctrlrrlrnk tahqikvqhf hqqllrnaaw apldlpsivs ehlpmkqkrr
     1351 fwklvlvlpd veeqtpespg rilenwlkvk ftgddsmvgd igdnagdigt
     1401 lsvfntlssk gdqtvsvnvc ikvahgtlsd saldavetqk dllgtsglml
     1451 llppkvksee vaeeelswls allqlkqllq akpfqpalpl vvlvpssrgd
     1501 sagravedgl mlqdlvsakl isdyivveip dsvndlqgtv kvsgavqwli
     1551 sgcpqaldlc cqtlvqyved gisrefsrrf fhdrrerrla slpsqepsti
     1601 ielfnsvlqf lasvvsseql cdiswpvmef aevggsqllp hlhwnspehl
     1651 awlkqavlgf qlpqmdlppp gapwlpvcsm viqytsqips ssqtqpvlqs
     1701 qaenllcrty qkwknkslsp gqelgpsvae ipwddiitlc inhklrdwtp
1751 prlpvtleal sedgqicvyf fknllrkyhv pssweqarmq tqrelqlshg
     1801 rsgmrsihpp tstfptpllh vhqkgkkkee sgregslste dllrgasaee
     1851 llagslsssl leekeenkrf edqlqqwlsq dsqaftestr lplylpqtlv
     1901 sfpdsiktqt mvktstspqn sqtqkqlrfs easgssltek lkllerliqs
     1951 sraeeaasel hlsallemvd m
HITS AT:
          947-957
      ANSWER 11 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAB22943 Protein
                                           DGENE
TITLE:
                  GANP proteins participating in signal conversion of abnormal
                  B cell differentiation in autoimmune state and having kinase
                  activity, useful in the study of autoimmune mechanisms -
INVENTOR:
                  Sakaguchi N; Kuwahara K
PATENT ASSIGNEE:
                  (SUME) SUMITOMO ELECTRIC IND CO.
PATENT INFO:
                  WO 2000050611 A1 20000831
                                                            91p
APPLICATION INFO: WO 1999-JP4634
                                   19990827
PRIORITY INFO:
                  JP 1999-47035
                                    19990224
DOCUMENT TYPE:
                  Patent
LANGUAGE:
                  Japanese
OTHER SOURCE:
                  2000-549411 [50]
      AAB22943 Protein
                              DGENE
      143A; 113R; 59 N; 90 D; 0 B; 42 C; 105Q; 153E; 0 Z; 118G; 48 H; 58 I;
      214L; 101K; 36 M; 88 F; 130P; 212S; 94 T; 19 W; 24 Y; 133V; 0 Others
        1 mnptnpfsgq qpsafsasss nvgtlpskpp frfgqpslfg qnstlsgkss
       51 gfsqvssfpa ssgvshsssv qtlgftqtss vgpfsgleht stfvatsgps
      101 sssvlgntgf sfksptsvga fpstsafgqe ageivnsgfg ktefsfkple
      151 navfkpilga esepektqsq iasgfftfsh pissapggla pfsfpqvtss
      201 sattsnftfs kpvssnnsls aftpalsngn veeekrgpks ifgssnnsfs
      251 sfpvssavlg epfqaskagv rqgceeavsq veplpslmkg lkrkedqdrs
      301 prrhghepae dsdplsrgdh ppdkrpvrln rprggtlfgr tiqdvfksnk
      351 evgrlgnkea kketgfvesa esdhmaipgg nqsvlapsri pgvnkeeete
      401 srekkedslr gtparqsnrs estdslggls psevtaiqck nipdylndrt
      451 ilenhfgkia kvqriftrrs kklavvhffd hasaalarkk qkslhkdmai
      501 fwhrkkispn kkpfslkekk pgdgevspst edapfqhspl gkaagrtgas
      551 sllnksspvk kpsllkahqf egdsfdsase gseglgpcvl slstligtva
      601 etskekyrll dqrdrimrqa rvkrtdldka rtfvgtcldm cpekerymre
      651 trsqlsvfev vpgtdqvdha aavkeysrss adqeeplphe lrplpvlsrt
      701 mdylvtqimd qkegslrdwy dfvwnrtrgi rkditqqhlc dpltvsliek
      751 ctrfhihcah fmceepmssf dakinnenmt kclqslkemy qdlrnkgvfc
      801 aseaefqgyn vllslnkgdi lrevqqfhpa vrnssevkfa vqafaalnsn
      851 nfvrffklvq sasylnacll hcyfsqirkd alralnfayt vstqrstifp
      901 ldgvvrmllf rdceeatdfl tchgltvsdg cvelnrsafl epeglsktrk
      951 svfitrkltv svgeivnggp lppvprhtpv csfnsqnkyi geslaaelpv
             1001 stqrpgsdtv gggrgeecgv epdaplsslp qslpapapsp vplppvlalt
     1051 psvapslfql svqpeppppe pvpmysdedl aqvvdeliqe alqrdceevg
```

AA

SOL SEQ

```
1101 saqaayaaaa lqvsnaamed lltaattqil rhiaaeevsk ererregerq
     1151 raeeerlkqe relvlselsq glavelmerv mmefvretcs qelknavetd
1201 qrvrvarcce dvcahlvdlf lveeifqtak etlqelqcfc kylqrwreav
     1251 tarkklrrqm rafpaapccv dvsdrlrala psaecpiaee nlarglldlg
     1301 hagrlgisct rlrrlrnkta hqmkvqhfyq qllsdvawas ldlpslvaeh
1351 lpgrqehvfw klvlvlpdve eqspescgri lanwlkvkfm gdegsvddts
     1401 sdaggiqtls lfnslsskgd qmisvnvcik vahgalsdga idavetqkdl
     1451 lgasglmlll ppkmksedma eedvywlsal lqlkqllqak pfqpalplvv
     1501 lvpspggdav ekevedglml qdlvsaklis dytvteipdt indlqgstkv
     1551 lqavqwlvsh cphsldlccq tliqyvedgi ghefsgrffh drrerrlggl
     1601 asqepgaiie lfnsvlqfla svvsseqlcd lswpvtefae aggsrllphl
     1651 hwnapehlaw lkqavlgfql pqmdlpplga pwlpvcsmvv qyasqipssr
     1701 qtqpvlqsqv enllhrtycr wkskspspvh gagpsvmeip wddlialcin
     1751 hklrdwtppr lpvtsealse dgqicvyffk ndlkkydvpl sweqarlqtq
     1801 kelqlregrl aikpfhpsan nfpipllhmh rnwkrsteca qegripsted
     1851 lmrgasaeel laqclsssll lekeenkrfe dqlqqwlsed sgaftdltsl
     1901 plylpqtlvs lshtiepvmk tsvttspqsd mmreqlqlse atgtclgerl
     1951 khlerlirss reeevaselh lsalldmvdi
HITS AT: 954-964
      ANSWER 12 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAB22942 Protein
                                            DGENE
                   GANP proteins participating in signal conversion of abnormal
TITLE:
                   B cell differentiation in autoimmune state and having kinase
                   activity, useful in the study of autoimmune mechanisms -
INVENTOR:
                   Sakaguchi N; Kuwahara K
                  (SUME) SUMITOMO ELECTRIC IND CO.
PATENT ASSIGNEE:
PATENT INFO:
                   WO 2000050611 A1 20000831
                                                               91p
APPLICATION INFO: WO 1999-JP4634 19990827
PRIORITY INFO:
                   JP 1999-47035
                                     19990224
DOCUMENT TYPE:
                   Patent
LANGUAGE:
                   Japanese
OTHER SOURCE:
                   2000-549411 [50]
      AAB22942 Protein
                               DGENE
      144A; 107R; 54 N; 83 D; 0 B; 39 C; 111Q; 152E; 0 Z; 112G; 44 H; 57 I;
      210L; 109K; 28 M; 87 F; 130P; 218S; 102T; 20 W; 25 Y; 139V; 0 Others
      1971
        1 mhpvnpfggs spsafavsss ttgtyqtksp frfgqpslfg qnstpsksla
      51 fsqvpsfatp sggshssslp afgltqtssv glfsslestp sfaatssssv 101 pgntafsfks tssvgvfpsg atfgpetgev agsgfrktef kfkplenavf
      151 kpipgpesep ektqsqissg fftfshpvgs gsggltpfsf pqvtnssvts
      201 ssfifskpvt sntpafaspl snqnveeekr vstsafgssn ssfstfptas
      251 pgslgepfpa nkpslrqqce eaisqveplp tlmkglkrke dqdrsprrhc
      301 heaaedpdpl srgdhppdkr pvrlnrprgg tlfgrtiqev fksnkeagrl
      351 gskeskesgf aepgesdhaa vpggsqstmv psrlpavtke eeesrdeked
      401 slrgksvrqs krreewiysl ggvsslelta iqcknipdyl ndrailekhf
      451 skiakvqrvf trrskklavi hffdhasaal arkkgkglhk dvvifwhkkk
      501 ispskklfpl keklgeseas qgiedspfqh splskpivrp aagsllskss
      551 pvkkpsllkm hqfeadpfds gsegseglgs cvsslstlig tvadtseeky
      601 rlldgrdrim rgarvkrtdl dkarafvgtc pdmcpekery lretrsglsv
      651 fevvpgtdqv dhaaavkeys rssadqeepl phelrpsavl srtmdylvtq
      701 imdqkegslr dwydfvwnrt rgirkditqq hlcdpltvsl iekctrfhih
      751 cahfmceepm ssfdakinne nmtkclqslk emyqdlrnkg vfcaseaefq
      801 gynvllnlnk gdilrevqqf hpdvrnspev nfavqafaal nsnnfvrffk
      851 lvqsasylna cllhcyfnqi rkdalralnv aytvstqrst vfpldgvvrm
      901 llfrdseeat nflnyhgltv adgcvelnrs aflepeglck arksvfigrk
      951 ltvsvgevvn ggplppvprh tpvcsfnsqn kyvgeslate lpistqragg
          ======
     1001 dpagggrged ceaevdlptl avlpgpppas satpalhvgp lapaaapsll
     1051 qastqpevll pkpapvysds dlvqvvdeli qealqvdcee vssagaayva
     1101 aalgvsnaav edlitaattg ilrhvaaeev smerqrleee kqraeeerlk
     1151 gerelmltql seglaaelte ltvtecvwet csqelqsavk idqkvrvarc
```

T.10

AN

SQL

SEO

```
1201 ceavcahlvd lflaeeifqt aketlqelqc fckylqrwre avaarkkfrr
     1251 qmrafpaapc cvdvndrlqa lvpsaecpit eenlakglld lghagkvgvs
     1301 ctrlrrlrnk tahqikvqhf hqqllrnaaw apldlpsivs ehlpmkqkrr
     1351 fwklvlvlpd veeqtpespg rilenwlkvk ftgddsmvgd igdnagdiqt
1401 lsvfntlssk gdqtvsvnvc ikvahgtlsd saldavetqk dllgtsglml
     1451 llppkvksee vaeeelswls allqlkqllq akpfqpalpl vvlvpssrgd
     1501 sagravedgl mlqdlvsakl isdyivveip dsvndlqgtv kvsgavqwli
     1551 sgcpqaldlc cqtlvqyved gisrefsrrf fhdrrerrla slpsqepsti
     1601 ielfnsvlqf lasvvsseql cdiswpvmef aevggsqllp hlhwnspehl
     1651 awlkqavlgf qlpqmdlppp gapwlpvcsm viqytsqips ssqtqpvlqs
     1701 qaenllcrty qkwknkslsp gqelgpsvae ipwddiitlc inhklrdwtp
1751 prlpvtleal sedgqicvyf fknllrkyhv pssweqarmq tqrelqlshg
     1801 rsgmrsihpp tstfptpllh vhqkgkkkee sgregslste dllrgasaee
1851 llaqslsssl leekeenkrf edqlqqwlsq dsqaftestr lplylpqtlv
     1901 sfpdsiktqt mvktstspqn sgtgkqlrfs easgssltek lkllerliqs
     1951 sraeeaasel hlsallemvd m
HITS AT: 947-957
      ANSWER 13 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAR23122 Protein
                                            DGENE
                   Thermostable DNA polymerase from Thermosipho africanus -
                   prepd. by purificn. from cells or by expression of Taf
                   polymerase gene in host cells
INVENTOR:
                   Abramson R D; Gelfand D H; Greenfield L; Lawyer F C; Reichert
PATENT ASSIGNEE:
                   (CETU) CETUS CORP.
PATENT INFO:
                   WO 9206202
                                  A 19920416
                                                               q08
APPLICATION INFO: WO 1991-US7076
                                     19910926
PRIORITY INFO:
                   US 1990-590490
                                     19900928
DOCUMENT TYPE:
                   Patent
LANGUAGE:
                   English
OTHER SOURCE:
                   1992-150887 [18]
      AAR23122 Protein
                               DGENE
      36 A; 38 R; 43 N; 55 D; 0 B; 2 C; 24 Q; 85 E; 0 Z; 46 G; 11 H; 71 I;
      98 L; 97 K; 19 M; 39 F; 25 P; 54 S; 38 T; 4 W; 47 Y; 60 V; 0 Others
        1 mgkmflfdgt glvyrafyai dqslqtssgl htnavygltk mlikflkehi
       51 sigkdacvfv ldskggskkr kdiletykan rpstpdllle qipyveelvd
      101 algikvlkie gfeaddiiat lskkfesdfe kvniitgdkd llqlvsdkvf
      151 vwrvergitd lvlydrnkvi ekygiypeqf kdylslvgdq idnipgvkgi
      201 gkktavsllk kynslenvlk ninllteklr rlledskedl qksielveli
      251 ydvpmdvekd eiiyrgynpd kllkvlkkye fssiikelnl qeklekeyil
      301 vdnedklkkl aeeiekyktf sidtettsld pfeaklvgis istmegkayy
      351 ipvshfgakn iskslidkfl kqilqekdyn ivqqnlkfdy eifksmqfsp
      401 nvphfdtmia ayllnpdekr fnleelslky lgykmisfde lvnenvplfg
      451 ndfsyvpler aveyscedad vtyrifrklg rkiyenemek lfyeiempli
      501 dvlsemelng vyfdeeylke lskkyqekmd gikekvfeia getfnlnsst
      551 qvayilfekl niapykktat gkfstnaevl eelskeheia kllleyrkyq
      601 klkstyidsi plsinrktnr vhttfhqtgt stgrlsssnp nlqnlptrse
      651 egkeirkavr pqrqdwwilg adysqielrv lahvskdenl lkafkedldi
      701 htitaakifg vsemfvseqm rrvgkmvnfa iiygvspygl skriglsvse
      751 tkkiidnyfr yykgvfeylk rmkdearkkg yvttlfgrrr yipqlrskng
      801 nrvqegeria vntpiqgtaa diikiamini hnrlkkenlr skmilqvhde
      851 lvfevpdnel eivkdlvrde menavkldvp lkvdvyygke we
HITS AT:
          740-750
      ANSWER 14 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAR23174 Protein
                                           DGENE
                   Thermostable DNA polymerases with altered 5'-3' exo nuclease
                   activity - having conserved regions mutated or deleted, for
                   use in e.g. PCR, sequencing and detection assays
INVENTOR:
                  Abramson R D; Gelfand D H
```

L10

AN

AA

SQL SEQ

```
PATENT ASSIGNEE: (CETU) CETUS CORP.
PATENT INFO: WO 9206200 A 19920416
                                                           185p
APPLICATION INFO: WO 1991-US7035 19910930
PRIORITY INFO:
                  US 1990-590213
                                    19900928
                  US 1990-590466
                                    19900928
                  US 1990-590490 19900928
DOCUMENT TYPE:
                 Patent
LANGUAGE:
                 English
OTHER SOURCE:
                1992-150885 [18]
      AAR23174 Protein DGENE
AN
      27 A; 28 R; 33 N; 31 D; 0 B; 1 C; 17 Q; 64 E; 0 Z; 28 G; 9 H; 47 I;
      60 L; 64 K; 16 M; 28 F; 18 P; 37 S; 27 T; 3 W; 33 Y; 38 V; 0 Others
SQL
      609
SEQ
        1 mikelnlqek lekeyilvdn edklkklaee iekyktfsid tettsldpfe
       51 aklvgisist megkayyipv shfgaknisk slidkflkqi lqekdynivg
      101 qnlkfdyeif ksmgfspnvp hfdtmiaayl lnpdekrfnl eelslkylgy
      151 kmisfdelvn envplfgndf syvplerave yscedadvty rifrklgkki
201 yenemeklfy eiemplidvl semelngvyf deeylkelsk kyqekmdgik
      251 ekvfeiaget fnlnsstqva yilfeklnia pykktatgkf stnaevleel
      301 skeheiakll leyrkyqklk styidsipls inrktnrvht tfhqtgtstg
      351 rlsssnpnlq nlptrseegk eirkavrpqr qdwwilgady sqielrvlah
      401 vskdenllka fkedldihti taakifgvse mfvseqmrrv gkmvnfaiiy
      451 gvspyglskr iglsvsetkk iidnyfryyk gvfeylkrmk dearkkgyvt
                ==== =====
      501 tlfgrrryip glrskngnrv gegeriavnt piggtaadii kiaminihnr
      551 lkkenlrskm ilqvhdelvf evpdneleiv kdlvrdemen avkldvplkv
      601 dvyygkewe
HITS AT: 457-467
FEATURE TABLE:
Key | Location | Qualifier |
Misc-difference 1..2 note "residues 2-284 deleted from the native sequence"
     ANSWER 15 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAR23173 Protein DGENE
                  Thermostable DNA polymerases with altered 5'-3' exo nuclease
                  activity - having conserved regions mutated or deleted, for
                  use in e.g. PCR, sequencing and detection assays
INVENTOR:
                 Abramson R D; Gelfand D H
PATENT ASSIGNEE: (CETU) CETUS CORP.
PATENT INFO:
                  WO 9206200 A 19920416
                                                           185p
APPLICATION INFO: WO 1991-US7035 19910930 PRIORITY INFO: US 1990-590213 19900928
PRIORITY INFO:
                  US 1990-590466 19900928
                 US 1990-590490 19900928
DOCUMENT TYPE:
                 Patent
               English
1992-150885 [18]
LANGUAGE:
OTHER SOURCE:
      AAR23173 Protein
AN
                              DGENE
      28 A; 31 R; 38 N; 37 D; 0 B; 1 C; 18 Q; 73 E; 0 Z; 29 G; 9 H; 53 I; 75 L; 75 K; 17 M; 29 F; 20 P; 43 S; 29 T; 3 W; 38 Y; 44 V; 0 Others
SOL
      690
SEO
        1 mtavsllkky nslenvlkni nllteklrrl ledskedlqk sielveliyd
       51 vpmdvekdei iyrqynpdkl lkvlkkyefs siikelnlae klekevilvd
      101 nedklkklae eiekyktfsi dtettsldpf eaklvgisis tmegkayyip
      151 vshfgaknis kslidkflkq ilqekdyniv gqnlkfdyei fksmgfspnv
      201 phfdtmiaay llnpdekrfn leelslkylg ykmisfdelv nenvplfgnd
```

```
251 fsyvplerav eyscedadvt yrifrklgkk iyenemeklf yeiemplidv
      301 lsemelngvy fdeeylkels kkyqekmdgi kekvfeiage tfnlnsstqv
      351 ayilfeklni apykktatgk fstnaevlee lskeheiakl lleyrkyqkl
      401 kstyidsipl sinrktnrvh ttfhqtgtst grlsssnpnl qnlptrseeg
451 keirkavrpq rqdwwilgad ysqielrvla hvskdenllk afkedldiht
501 itaakifgvs emfvseqmrr vgkmvnfaii ygvspyglsk riglsvsetk
                                                   === =======
      551 kiidnyfryy kgvfeylkrm kdearkkgyv ttlfgrrryi pqlrskngnr
      601 vqegeriavn tpiqgtaadi ikiaminihn rlkkenlrsk milqvhdelv
      651 fevpdnelei vkdlvrdeme navkldvplk vdvyygkewe
HITS AT: 538-548
FEATURE TABLE:
               |Location|Qualifier|
Misc-difference 1...2 | note
                                   |"residues 2-203 deleted from
                                  the native sequence"
      ANSWER 16 OF 19 DGENE (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: AAR23172 Protein
                                          DGENE
                  Thermostable DNA polymerases with altered 5'-3' exo nuclease
                  activity - having conserved regions mutated or deleted, for
                  use in e.g. PCR, sequencing and detection assays
INVENTOR:
                  Abramson R D; Gelfand D H
PATENT ASSIGNEE:
                 (CETU) CETUS CORP.
                  WO 9206200 A 19920416
PATENT INFO:
                                                           185p
APPLICATION INFO: WO 1991-US7035
                                   19910930
                  US 1990-590213
PRIORITY INFO:
                                   19900928
                  US 1990-590466
                                   19900928
                  US 1990-590490
                                   19900928
DOCUMENT TYPE:
                 Patent
LANGUAGE:
                  English
OTHER SOURCE:
                 1992-150885 [18]
MΑ
      AAR23172 Protein DGENE
      28 A; 34 R; 40 N; 44 D; 0 B; 1 C; 21 Q; 76 E; 0 Z; 35 G; 9 H; 59 I;
AA
      82 L; 82 K; 17 M; 31 F; 22 P; 45 S; 30 T; 4 W; 42 Y; 52 V; 0 Others
SQL
SEO
        1 mdllqlvsdk vfvwrvergi tdlvlydrnk viekygiype qfkdylslvg
       51 dqidnipgvk gigkktavsl lkkynslenv lkninlltek lrrlledske
      101 dlqksielve liydvpmdve kdeiiyrgyn pdkllkvlkk yefssiikel
      151 nlqeklekey ilvdnedklk klaeeiekyk tfsidtetts ldpfeaklvq
      201 isistmegka yyipvshfga kniskslidk flkqilqekd ynivgqnlkf
      251 dyeifksmgf spnvphfdtm iaayllnpde krfnleelsl kylgykmisf
      301 delvnenvpl fgndfsyvpl eraveysced advtyrifrk lgkkiyenem
      351 eklfyeiemp lidvlsemel ngvyfdeeyl kelskkyqek mdgikekvfe
      401 iagetfnlns stqvayilfe klniapykkt atgkfstnae vleelskehe
      451 iakllleyrk yqklkstyid siplsinrkt nrvhttfhqt gtstgrlsss
      501 npnlqnlptr seegkeirka vrpqrqdwwi lgadysqiel rvlahvskde
      551 nllkafkedl dihtitaaki fgvsemfvse qmrrvgkmvn faiiygvspy
      601 glskriglsv setkkiidny fryykgvfey lkrmkdeark kgyvttlfgr
           651 rryipglrsk ngnrvqeger iavntpiggt aadiikiami nihnrlkken
      701 lrskmilqvh delvfevpdn eleivkdlvr demenavkld vplkvdvyyg
      751 kewe
HITS AT: 602-612
```

FEATURE TABLE:

Key | Location | Qualifier |

Misc-difference 1..2 note "residues 2-139 deleted from the native sequence" ANSWER 17 OF 19 DGENE (C) 2003 THOMSON DERWENT ACCESSION NUMBER: AAR23171 Protein DGENE Thermostable DNA polymerases with altered 5'-3' exo nuclease TITLE: activity - having conserved regions mutated or deleted, for use in e.g. PCR, sequencing and detection assays INVENTOR: Abramson R D; Gelfand D H PATENT ASSIGNEE: (CETU) CETUS CORP. WO 9206200 A 19920416 PATENT INFO: 185p APPLICATION INFO: WO 1991-US7035 19910930 PRIORITY INFO: US 1990-590213 19900928 US 1990-590466 19900928 US 1990-590490 19900928 DOCUMENT TYPE: Patent English 1992-150885 [18] LANGUAGE: OTHER SOURCE: AAR23171 Protein DGENE AN 31 A; 34 R; 41 N; 49 D; 0 B; 1 C; 21 Q; 82 E; 0 Z; 38 G; 9 H; 65 I; 86 L; 88 K; 17 M; 34 F; 22 P; 47 S; 32 T; 4 W; 43 Y; 56 V; 0 Others SOL 800 SEO 1 myveelvdal gikvlkiegf eaddiiatls kkfesdfekv niitqdkdll 51 qlvsdkvfvw rvergitdlv lydrnkviek ygiypeqfkd ylslvgdqid 101 nipgvkgigk ktavsllkky nslenvlkni nllteklrrl ledskedlqk 151 sielveliyd vpmdvekdei iyrgynpdkl lkvlkkyefs siikelnlqe 201 klekeyilvd nedklkklae eiekyktfsi dtettsldpf eaklvgisis 251 tmegkayyip vshfgaknis kslidkflkq ilqekdyniv gqnlkfdyei 301 fksmgfspnv phfdtmiaay llnpdekrfn leelslkylg ykmisfdelv 351 nenvplfgnd fsyvplerav eyscedadvt yrifrklgkk iyenemeklf 401 yeiemplidv lsemelngvy fdeeylkels kkyqekmdgi kekvfeiage 451 tfnlnsstqv ayilfeklni apykktatqk fstnaevlee lskeheiakl 501 lleyrkyqkl kstyidsipl sinrktnrvh ttfhqtgtst grlsssnpnl 551 qnlptrseeg keirkavrpq rqdwwilgad ysqielrvla hvskdenllk 601 afkedldiht itaakifgvs emfvseqmrr vgkmvnfaii ygvspyglsk 651 riglsvsetk kiidnyfryy kgvfeylkrm kdearkkgyv ttlfgrrryi 701 pqlrskngnr vqegeriavn tpiqgtaadi ikiaminihn rlkkenlrsk 751 milqvhdelv fevpdnelei vkdlvrdeme navkldvplk vdvyygkewe HITS AT: 648-658 FEATURE TABLE: |Location|Qualifier| Misc-difference | 1..2 | note | "residues 2-93 deleted from the native sequence" ANSWER 18 OF 19 DGENE (C) 2003 THOMSON DERWENT ACCESSION NUMBER: AAR23170 Protein DGENE TITLE: Thermostable DNA polymerases with altered 5'-3' exo nuclease activity - having conserved regions mutated or deleted, for use in e.g. PCR, sequencing and detection assays Abramson R D; Gelfand D H INVENTOR: PATENT ASSIGNEE: (CETU) CETUS CORP. PATENT INFO: WO 9206200 A 19920416 185p APPLICATION INFO: WO 1991-US7035 19910930 PRIORITY INFO: US 1990-590213 19900928

US 1990-590466 19900928 US 1990-590490 19900928 DOCUMENT TYPE: Patent LANGUAGE: English OTHER SOURCE: 1992-150885 [18] ΔN AAR23170 Protein DGENE AA 33 A; 36 R; 42 N; 53 D; 0 B; 2 C; 22 Q; 85 E; 0 Z; 41 G; 10 H; 70 I; 94 L; 97 K; 18 M; 36 F; 25 P; 51 S; 35 T; 4 W; 44 Y; 58 V; 0 Others SQL SEQ 1 mltkmlikfl kehisigkda cvfvldskgg skkrkdilet ykanrpstpd 51 llleqipyve elvdalgikv lkiegfeadd iiatlskkfe sdfekvniit 101 gdkdllqlvs dkvfvwrver gitdlvlydr nkviekygiy peqfkdylsl 151 vgdqidnipg vkgigkktav sllkkynsle nvlkninllt eklrrlleds 201 kedlqksiel veliydvpmd vekdeiiyrg ynpdkllkvl kkyefssiik 251 elnlqeklek eyilvdnedk lkklaeeiek yktfsidtet tsldpfeakl 301 vgisistmeg kayyipvshf gaknisksli dkflkqilqe kdynivgqnl 351 kfdyeifksm gfspnvphfd tmiaayllnp dekrfnleel slkylgykmi 401 sfdelvnenv plfgndfsyv pleraveysc edadvtyrif rklgkkiyen 451 emeklfyeie mplidvlsem elngvyfdee ylkelskkyq ekmdgikekv 501 feiagetfnl nsstqvayil feklniapyk ktatgkfstn aevleelske 551 heiakllley rkyqklksty idsiplsinr ktnrvhttfh qtgtstgrls 601 ssnpnlqnlp trseegkeir kavrpqrqdw wilgadysqi elrvlahvsk 651 denllkafke dldihtitaa kifgvsemfv seqmrrvgkm vnfaiiyqvs 701 pyglskrigl svsetkkiid nyfryykgvf eylkrmkdea rkkgyvttlf _____ ___ 751 grrryipqlr skngnrvqeg eriavntpiq gtaadiikia minihnrlkk 801 enlrskmilq vhdelvfevp dneleivkdl vrdemenavk ldvplkvdvy 851 ygkewe HITS AT: 704-714 FEATURE TABLE: Key | Location | Qualifier | Misc-difference | 1..2 note |"residues 2-27 deleted from the native sequence" ANSWER 19 OF 19 DGENE (C) 2003 THOMSON DERWENT ACCESSION NUMBER: AAR23169 Protein DGENE Thermostable DNA polymerases with altered 5'-3' exo nuclease activity - having conserved regions mutated or deleted, for use in e.g. PCR, sequencing and detection assays INVENTOR: Abramson R D; Gelfand D H PATENT ASSIGNEE: (CETU) CETUS CORP. PATENT INFO: WO 9206200 A 19920416 185p APPLICATION INFO: WO 1991-US7035 19910930 US 1990-590213 19900928 PRIORITY INFO: US 1990-590466 19900928 US 1990-590490 19900928 DOCUMENT TYPE: Patent LANGUAGE: English OTHER SOURCE: 1992-150885 [18] AAR23169 Protein AN36 A; 38 R; 43 N; 56 D; 0 B; 2 C; 24 Q; 85 E; 0 Z; 45 G; 11 H; 71 I; AA98 L; 97 K; 19 M; 39 F; 25 P; 54 S; 38 T; 4 W; 47 Y; 60 V; 0 Others SOL SEQ 1 mgkmflfdgt glvyrafyai dqslqtssgl htnavydltk mlikflkehi 51 sigkdacvfv ldskggskkr kdiletykan rpstpdllle qipyveelvd 101 algikvlkie gfeaddiiat lskkfesdfe kvniitgdkd llqlvsdkvf 151 vwrvergitd lvlydrnkvi ekygiypeqf kdylslvgdq idnipgvkgi

201 gkktavsllk kynslenvlk ninllteklr rlledskedl gksielveli 251 ydvpmdvekd eiiyrgynpd kllkvlkkye fssiikelnl qeklekeyil 301 vdnedklkkl aeeiekyktf sidtettsld pfeaklvgis istmegkayy 351 ipvshfgakn iskslidkfl kqilqekdyn ivgqnlkfdy eifksmgfsp 401 nvphfdtmia ayllnpdekr fnleelslky lgykmisfde lvnenvplfg 451 ndfsyvpler aveyscedad vtyrifrklg rkiyenemek lfyeiempli 501 dvlsemelng vyfdeeylke lskkyqekmd gikekvfeia getfnlnsst 551 qvayilfekl niapykktat gkfstnaevl eelskeheia kllleyrkyg 601 klkstyidsi plsinrktnr vhttfhqtgt stgrlsssnp nlqnlptrse 651 egkeirkavr pqrqdwwilg adysqielrv lahvskdenl lkafkedldi 701 htitaakifg vsemfvseqm rrvgkmvnfa iiygvspygl skriglsvse 751 tkkiidnyfr yykgvfeylk rmkdearkkg yvttlfgrrr yipqlrskng 801 nrvqegeria vntpiqgtaa diikiamini hnrlkkenlr skmilqvhde 851 lvfevpdnel eivkdlvrde menavkldvp lkvdvyygke we HITS AT: 740-750

FEATURE TABLE:

|Location|Qualifier|

Misc-difference | 37 | note | "Gly in native sequence" (FILE 'HOME' ENTERED AT 08:13:29 ON 18 JAN 2003)

FILE 'DGENE' ENTERED AT 08:13:42 ON 18 JAN 2003

L1 QUE LSQELAIPYEE

RUN GETSEQ

L2 RUN STATEMENT CREATED

FILE 'REGISTRY' ENTERED AT 08:15:19 ON 18 JAN 2003

L3 1 S L2

FILE 'DGENE' ENTERED AT 08:15:47 ON 18 JAN 2003

L4 QUE LSXELXIPYEE/SQEFP

RUN GETSEQ

L5 RUN STATEMENT CREATED

L6 QUE LSXELSIPYEE LSVRLGXPVKE LSKRIGLSVSE LAQNLNIXRKE/SQEFP

RUN GETSEQ

L7 RUN STATEMENT CREATED

L8 19 DUP REM L7 (0 DUPLICATES REMOVED)

FILE 'REGISTRY' ENTERED AT 08:19:14 ON 18 JAN 2003

L9 QUE LSXELSIPYEE LSVRLGXPVKE LSKRIGLSVSE LAQNLNIXRKE

FILE 'DGENE' ENTERED AT 08:20:00 ON 18 JAN 2003

RUN GETSEQ

L10 RUN STATEMENT CREATED

FILE 'CAPLUS' ENTERED AT 08:20:30 ON 18 JAN 2003

FILE 'REGISTRY' ENTERED AT 08:21:06 ON 18 JAN 2003

FILE 'DGENE' ENTERED AT 08:21:34 ON 18 JAN 2003

=>